

APOLLO 8 AIR-TO-GROUND VOICE TRANSCRIPTION

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01 11 09 20 CDR Houston, Apollo 8. How do you read?

01 11 09 22 CC Loud and clear, Apollo 8.

01 11 09 28 CC I'm going to have a maneuver PAD and --

01 11 09 32 SC Houston, Apollo 8. How do you read?

01 11 09 35 CC I read you loud and clear, Apollo 8. How me?

01 11 09 45 CC Apollo 8, Houston.

01 11 09 53 CDR Hello, Houston. Apollo 8. Houston, Apollo 8.
How do you read?

01 11 09 58 CC Apollo 8, loud and clear.

01 11 12 20 CDR Hello, Houston. Apollo 8. Go ahead.

01 11 12 24 CC Apollo 8, Houston. I believe we've lost our
uplink. I'm transmitting in the blind. Read
you loud and clear.

01 11 13 30 CDR Houston, Apollo 8. Houston, Apollo 8. How do
you read?

01 11 13 38 CC Apollo 8, Houston. Read you loud and clear.
We may have some uplink problems; transmitting
in the blind, at this time. Over.

01 11 15 30 CC Apollo 8, Houston.

01 11 15 38 CC Apollo 8, Houston.

01 11 16 10 CC Apollo 8, Houston.

01 11 16 23 CT Hawaii Network GOSS Conference. How do you read?

01 11 16 32 CDR Houston, how do you read? Apollo 8.

01 11 16 34 CC Apollo 8, I read you loud and clear. How me?

01 11 17 31 CDR Houston, Apollo 8. How do you read?

01 11 17 35 CC Apollo 8, Houston. Over.

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01 11 18 20 CDR Go ahead, Hawaii M&O. This is Apollo 8. How
do you read?

01 11 18 25 CC Apollo 8, Houston. Read you loud and clear.

01 11 18 37 CDR Okay. Thank you, Hawaii. How do you read?

01 11 21 15 F Hawaii, Houston Network. Voice check on GOSS
Conference.

01 11 21 24 CC Apollo 8, Houston.

01 11 26 41 CT Hawaii LOS. Unable to find.

01 11 27 07 CC Apollo 8, Houston.

01 11 27 14 CC Apollo 8, Houston.

01 11 27 55 CC Hawaii, this is Houston CAP COMM. Over.

01 11 28 16 CT Houston CAP COMM, Hawaii.

01 11 28 13 CC Hawaii, Houston CAP COMM. I would like to have
a voice check.

01 11 28 18 CT Roger. I read you loud and clear.

01 11 28 21 CC Okay. I'm reading you loud and clear. I un-
derstand you have contact with the spacecraft.
Is that affirm?

01 11 28 26 CT I have uplink voice to the spacecraft; the down-
link is too low in the mud.

01 11 28 32 CC Okay. Understand that you have good uplink, but
your downlink is in the mud. You don't have any
way of copying it either, is that correct --

01 11 28 40 CDR Houston, Apollo 8. ... again. How do you read?

01 11 28 41 CT That is affirmative.

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0 01 11 28 45 CC Okay, Hawaii, we can hear Apollo 8, calling down.
Would you answer and tell them that we did copy
that?

01 11 28 53 CT Roger.

01 11 28 57 CT Apollo 8, Hawaii M&O. Houston reports they
copied your last.

01 11 29 03 CDR Okay. Thank you.

01 11 29 08 CC Apollo 8, Houston. Over.

01 11 29 30 F Hawaii, Houston Network, GOSS Conference.

01 11 29 37 F Hawaii, Houston Network, GOSS Conference. Your
NET 2.

01 11 29 41 CT Houston Network, Hawaii.

01 11 29 43 F Roger. Did you copy the CAP COMM?

0 01 11 29 46 CT Affirm. We copied the CAP COMM.

01 11 29 49 F Is he keying the transmitters out there?

01 11 29 58 CT He did key it one time, Network.

01 11 30 01 F Okay. I'm going to ask him to call the space-
craft again, and I would like for you to give me
a report if he does not key the transmitters.

01 11 30 11 CT Roger. Network is our NET 1 now conferenced up --

01 11 30 15 CC Your NET 2 is conferenced to our GOSS Confer-
ence here.

01 11 30 21 CT Roger. How about our GOSS Conference loop?

01 11 30 23 CC Your GOSS Conference loop is dead.

01 11 30 26 CT Roger. We are GO for command. We were unable
to transmit before.

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01 11 30 31 CC Understand.

01 11 30 32 CT We transmitted to the spacecraft as per CAP COMM
and they acknowledged our transmission.

01 11 30 39 CC Apollo 8, Houston.

01 11 30 43 CDR Go ahead, Houston. Apollo 8.

01 11 30 45 CC Okay. We got back together again. You're loud
and clear. We've been reading you. We have a
problem down here on the ground getting our
signal from MCC out to remote site.

01 11 31 01 CDR Roger. Understand.

01 11 31 52 CC Apollo 8, Houston. I've got a ball score for
you. It was Oakland 41, Kansas City 6 is the
final score. That's 41 to 6, Oakland. We're
trying to get some news releases over here for
you. I suspect we're going to find that the
staged TV show was probably the biggest news
of the day.

01 11 31 20 CDR I'm sorry that the TV lens broke down.

01 11 31 26 CC Well, we're working on that some more. I'm
not sure that the whole thing is lost yet. It
appears that our problem is one where the light
intensity which is sensed by our light meter
in there is picking up an average field which
is much larger than the earth, and so it's sens-
ing a great deal of deep space environment which
is dark, and we're suspicious that this is prob-
ably opening up the lens aperture as wide as it

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01 11 30 31 CC Understand.
01 11 30 32 CT We transmitted to the spacecraft as per CAP COMM
and they acknowledged our transmission.
01 11 30 39 CC Apollo 8, Houston.
01 11 30 43 CDR Go ahead, Houston. Apollo 8.
01 11 30 45 CC Okay. We got back together again. You're loud
and clear. We've been reading you. We have a
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ing a great deal of deep space environment which
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will go, and then when you point the camera at the earth while the earth is only filling about 3 degrees of cone angle, whereas lens takes in 9. So it looks like you're probably just saturating the tube. Now we're playing around now with some --

01 11 33 14

CDR

We just lost you again, Houston.

01 11 33 16

CC

Say again.

01 11 33 20

CDR

I just lost your last transmission; you were elipped.

01 11 33 24

CC

Okay. Did you get any of my comments about the TV tube?

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01 11 33 33

CDR

Roger. Got them.

01 11 33 35

CC

Okay. What I - what we've got in mind here is that we are looking at some of the lenses you have on board for cameras, and we are going to see if one of them can possibly be used to attenuate some of this light so that you will be able to take one of these pictures, and we are running some tests now, and we'll let you know about those. I also have a maneuver PAD that I need to read up to you whenever it's convenient.

01 11 34 04

CDR

Let me get a pencil. Be fine right now.

01 11 34 07

CC

Okay.

01 11 34 19

CDR

Go ahead, Houston.

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01 11 34 23

CC

Okay. The first one I will give you is a TLI plus 44 maneuver PAD. I will start reading down the left-hand column. TLI plus 44, SPS/G&N 62970, minus 162, plus 129 046 56 0431, plus 00197, plus all zeros, plus 607 01 180 133, 001 November Alfa, plus 002 03 607 01 704 604 51 12 1375 349.

01 11 36 31

CC

Boresight star is earth, down 037, right 22, plus 10 68, minus 165 00 128 56 361 18 098 27 17. The GDC alignment stars: the primary star is Sirius, secondary Rigel 010, 294, 320, no ullage, path return P37 DELTA-V, 8750. This goes to the Indian Ocean and requires a high-speed procedure, that is minus Mike Alfa, and that will refer to your checklist page November Charlie 1. Over.

01 11 38 14

CDR

Okay, Houston. How do you read?

01 11 38 16

CC

Loud and clear.

01 11 38 23

CDR

TLI plus 44, SPS/G&N 62970, minus 162, plus 129 046 56 0431, plus 00197, plus all zeros, plus 60701 180 133 001, plus 00203, plus 60701 704 60451 12 1375 349; earth, down 037, right 2.2, plus 1068, minus 165 12856 36118 098 2717; Sirius and Rigel. Hello, Houston. How do you read now?

01 11 40 13

CC

Loud and clear.

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01 11 40 17 CDR Sirius and Rigel, 010 294 320, no ullage, path return P37 DELTA-V 8750, Indian Ocean minus MA, checklist NC 1.

01 11 40 36 CC That's affirmative, Apollo 8. And I have a flyby PAD for you, also.

01 11 40 46 CDR Go ahead.

01 11 40 48 CC Okay. This flyby PAD is an update to one that we gave you yesterday so you might want to note that this is the second one. And it will be a flyby SPS/G&N; 62970, minus 162, plus 129 060 59 4807, plus 00966, plus 00552, minus 02079. Roll, pitch, and yaw are all zeros, November Alfa, perigee height plus 00202 02358 022 02281 03 0407 317 013, up 047, right 39, plus 1418 minus 16505 12904 36160 146 2912. Primary star Sirius, secondary Rigel, 136 310 340, no ullage, requires realignment to preferred REFSMMAT. This burn will raise perilune to 550 miles. Over.

01 11 44 10 CDR Okay. Houston. The second flyby SPS/G&N. Are you with me?

01 11 44 15 CC Yes sir.

01 11 44 21 CDR 62970, minus 162, plus 129 06059 4807, plus 00966, plus 00552, minus 02079. Next three are all zeros, NA, plus 00202 02358 022 02281 03 0407 317 013, up 04.7, right 3.9, plus 1418, minus 16505, plus 12904, plus 36160 146 2912. Sirius,

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Rigel, 136 310 340, none, requires realignment to preferred REFSMMAT. Pericynthian to 550 miles.

01 11 45 47 CC That's correct, Apollo 8.

01 11 45 52 CDR Thank you.

01 11 48 26 CDR Houston, Apollo 8.

01 11 48 29 CC Go ahead, Apollo 8.

01 11 48 32 CDR Okay. The CMP is now up. We'll proceed with the 52 option and start on the cislunar navigation.

01 11 48 43 CC Okay. Thank you, and we'll start looking for some star data.

01 11 53 58 CC Apollo 8, Houston.

01 11 54 02 CDR Go ahead, Houston. Apollo 8.

01 11 54 05 CC Okay. When you pick up your activities, I have a preferred alignment here that I want you to be in when you do your P52, and I'll have about four items to change on your time lines, so if you give me a call when you're ready for it.

01 11 54 23 CDR We're ready right now. We were doing the P52. You want to hold off and go to a particular alignment, is that right?

01 11 54 32 CC Affirmative.

01 11 54 33 CDR All right. I'm ready.

01 11 54 35 CC Okay. The attitude is pitch 23.4, roll 184.7, yaw 14.3. And the reason we're doing the alignment in this attitude is, the next thing we'll

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be coming up with is the scanning telescope visibility test and that will be 70 degrees sun and Arcturus with a shaft and trunnion of zero. And then we can go ahead with the P52 and then a trunnion bias followed by P23 with the same stars we read to you before.

01 11 55 24 CDR

Okay.

01 12 00 32 CDR

Houston, Apollo 8. We're maneuvering to the angles you - you gave us.

01 12 00 35 CC

All right. Thank you.

01 12 09 45 CDR

Houston, we've reached the preferred attitude, and we're proceeding with the P52.

01 12 09 49 CC

Okay. Real fine, and I'll pass up some advice from your friendly flight surgeon. He says you're supposed to take one more Lomitil.

01 12 10 03 CDR

Okay. Everybody, or just me?

01 12 10 07 CC

Just Frank.

01 12 10 10 CDR

Thank you.

01 12 13 20 CMP

Houston, the P52 is completed. We're ready for your other data.

01 12 13 28 CC

Okay. Understand that you've done the P52. The next item on the flight plan should be a scanning-telescope visibility test, and this is the same one that was on your flight plan previously at 34 hours and about 12 minutes, and we'll be checking that 70 degree suns on Arcturus. Following that, we need to make a trunnion bias

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check, and then we'll go into a P23, and I can read you those star numbers and sets if you don't have them from the last time I read them up.

| | | |
|-------------|-----|--|
| 01 12 14 13 | CMP | Okay. Stand by. |
| 01 12 14 20 | CMP | Houston, Apollo 8. |
| 01 12 14 22 | CC | Go ahead. |
| 01 12 14 26 | CMP | Roger. With such good visibility or such good communications, we'll just give you a verbal description without seeing the scanning telescope right now. Your angles for maneuver tuning Arcturus were quite good. I've got Arcturus centered in the scanning telescope. At this sun angle, there is a shaft of light directly across the center of the scanning telescope and - band of light. It precludes seeing a lot of stars around us, and although I kept my eye glued to the telescope now for some time, it's very difficult to see any star patterns or anything. I couldn't recognize that with Arcturus unless I - the objects just drove me there. Now because I'm near zero shaft and zero trunnion, I'm getting quite a bit of shaft movement. Everytime the shaft moves, more particles leave the optics, and they're just as bright as the surrounding stars. |

And they mingle in the stars, and you can't tell star patterns or constellations. With this particular attitude, the shaft of light precludes any identification of constellations or individual stars.

01 12 15 47

CC

Okay. Copy that. Can you tell us something about the orientation of this band? You mentioned that last night also - that you also had a band about 10 degrees wide that ran across. Is there an orientation that we can tie that to?

01 12 16 05

CMP

I believe so, Ken. This band is parallel to the M-line, and I think it has something to do with the design of the optics, where we have that shaft or the rectangular entrance of the optics from the outside. At this particular sun angle, it cuts right across. Now I noticed that both the earth and the sun do this to the scanning telescope. In the sextant, the same light band is there, although it covers the entire sextant's field of view. However, the magnification brings out the stars quite well, and it is possible to mark on it. But the identification of the stars with the scanning telescope makes it very difficult. Now the attitude that I found the optics are best at are the attitudes which give the constellations

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Gienah Major and Orion in the scanning telescope. At this this particular attitude of the spacecraft, the band is gone; we're at a position whereby the sun is behind us, and I can see quite a few stars. Now yesterday I could also, after getting dark-adapted, see quite a few stars around the constellation Cassiopeiae which at first I couldn't. But right now this band precludes you see anything at all Arcturus which, of course, I know we're aiming at right now.

01 12 17 34

CC

Okay. Thank you very much.

01 12 18 08

CDR

Ken, what stars did you want to use? Did you want to read them off?

01 12 18 12

CC

Okay. First star will be 26, and we'll be making two sets of measurements, earth near-horizon using star 26. Then we would like to have one set on star 16, that's 16, using the earth far-horizon. If it turns out that star 26 earth near-horizon is not possible, then we'd like to have star 16 on the earth far-horizon for one set, and star 22 earth far-horizon one set. Over.

01 12 19 04

CDR

You want star 26, earth near-horizon, two sets; star 16, earth far-horizon, one set; and star 22, earth far-horizon, one set.

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01 12 19 18 CC Okay. That's star 22 only in the event that 26
on the earth's near horizon is not possible?
Over.

01 12 19 27 CDR We won't even do star 22 then unless we can't
get 26 on the near horizon.

01 12 19 31 CC That's affirmative.

01 12 20 25 LMP COMM sure is good all of a sudden, isn't it?

01 12 20 28 CC Yes, this is outstanding.

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| 01 12 50 52 | CDR | Houston, Apollo 8. |
| 01 12 50 54 | CC | Go ahead, Apollo 8. |
| 01 12 50 57 | CDR | Okay, we have completed two sets on 26 and one set on 16. |
| 01 12 51 02 | CC | Roger. Getting pretty speedy there. |
| 01 12 51 08 | CDR | Jim is getting to know the objects. |
| 01 12 51 11 | CMP | Are you receiving the data, Houston? |
| 01 12 51 13 | CC | Affirmative. |
| 01 12 51 16 | CMP | Okay. |
| 01 12 51 19 | CC | Keeping you honest. |
| 01 12 51 23 | CMP | Right. |
| 01 12 51 40 | CC | Okay, Apollo 8. We have looked at the data and it looks good and they feel like you can go back to PTC attitude anytime you are ready to. And if you can - go ahead. |
| 01 12 51 56 | CDR | What attitude do you want to use? The same one? |
| 01 12 52 00 | CC | That's affirmative. |
| 01 12 52 04 | CDR | Thank you. |
| 01 12 52 05 | CC | Okay, if you can reach over Bill there and get to panel 3, I believe we would like to cycle the oxygen fans. And also like to get the BIOMED switch over to CMP. |
| 01 12 52 24 | CDR | Okay. |
| 01 12 52 27 | CC | If you have to bother Bill, to do that why we can hold off on the cryo fans. |
| 01 12 52 31 | CDR | No, he moved. We already chased him under the seat. Okay, now you want just the oxygen fans on? |

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01 12 52 38 CC That's affirm. Turn one on for about 2 minutes and when we turn it off, then we will turn the next one on. We don't want to turn them on simultaneously though.

01 12 52 49 CDR I know that. I mean you don't want hydrogen though?

01 12 52 53 CC That's affirmative. Just the oxygen.

01 12 54 12 CMP Houston, Apollo 8.

01 12 54 16 CC Go ahead.

01 12 54 20 CMP Ken, just recap a little explanation here on your maneuver PAD, something which I'm really not knowledgeable about, the way it was presented to us, you mentioned fast return P37 DELTA-V of 8750, just briefly clarify that, will you please?

01 12 54 42 CC Okay, stand by.

01 12 57 43 CDR Ken, can you give us a little report on how our trajectory looks and the tracking is going and things like that?

01 12 57 50 CC Okay, sure will. I will put a summary together here.

01 12 57 55 CDR And the pericyynthion sign.

01 12 57 57 CC Roger, we will get all that together for you in just a few minutes.

01 12 58 01 CDR And we never did get the news.

01 12 58 05 CC You are the news.

01 12 58 09 CDR Come off it, come off it.

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01 12 58 41 CDR Okay, the fans have been cycled 2 minutes each and they are back off.

01 12 58 45 CC Okay, thank you very much.

01 13 06 07 LMP Houston, Apollo 8 is back in the PTC attitude, reads MHPTC.

01 13 06 12 CC Okay, thank you. And in reference to your question about the P37 DELTA-V, 8750, that's the number that goes into option at P37 for your minimum time return. That gives you a target for the Indian Ocean. And in this case, we are going to have use the high-speed procedures that were worked out for you to use some minus number for the major axis.

01 13 06 47 CMP Roger. Understand. I'm going to give that a try, Ken, in a run through. I tried it yesterday, I wasn't getting too much in the way of results. I will give it a try today.

01 13 07 02 CC Okay. And on the - your tracking that we have now, it still looks like the time we gave you last night for time of pericythion is still good, 69 plus 10 and right now your flyby earth pericythion altitude is 65.8. Looks like the midcourse number 3 is going to be something less than 1 foot-per-second. And all trajectory parameters are still holding real fine.

01 13 07 36 CDR That's the things we like to hear. We would like to keep those holding very much.

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01 13 07 45 CC Roger.

01 13 21 00 CDR Houston, Apollo 8.

01 13 21 04 CC Go ahead.

01 13 21 08 CDR Roger, we're getting near - we're going to need to dump some urine overboard here. I wonder if that's going to foul your trajectory up. Or can we go ahead and do it?

01 13 21 18 CC No, that's okay. Something that is kind of interesting though is that the last time you had your water dump, they noticed a change in the trajectory tracking at the same time and they got through correlating it, they found some fellow that thought he knew the characteristics of a nozzle and how much water you're dumping and his estimates of the effect on the trajectory seemed to coincide with the tracked results. So I guess you have to stay onto some of those things.

01 13 21 51 CDR Roger. Okay, we'll go ahead and dump it.

01 13 21 55 CC Okay.

01 13 23 29 CMP Houston, Apollo 8.

01 13 23 31 CC Roger. Go ahead.

01 13 23 35 CMP You planning on using our computer any time in the near future, I thought I'd do a little P37.

01 13 24 50 CC Apollo 8, Houston. You can go ahead and run that 37 and we'll going to kind of watch that from the ground, too, and see how it works out. A couple

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of items that are just of general interest in the trajectory world. Looks like the uncertainty and position was about 12 miles. Your uncertainty in velocity is about a quarter of a foot per second. And the perigee altitude of uncertainty is 5 miles.

01 13 25 26

CMP

Roger. Understand. Just for information, perhaps you read it out on the ground. I ran our pericynthion altitude determination using first of all, P21. The star state vector that we navigated with, we have plus 84.7 mile altitude and then we ran out your state vector that you updated with us the last time. We got 64.2 and then I ran P30, using our state vector and got 82.6 nautical miles. These are all plus.

01 13 26 02

CC

That's good.

01 13 26 14

CMP

What I'm going to attempt to do on P37 is to input your DELTA-V on your TLI plus 44 and use that 44 burn time. I notice that the entry velocity is a little high. We might not be able to do a normal P37, but we'll give it a try.

01 13 26 35

CC

Roger.

01 13 27 36

CMP

Houston, one more question then before I start. Did you notice on this last update PAD, this minus MANZ 1. Was that referring to the P37 fast return or the nominal maneuver which you gave me?

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01 13 27 52 CC Apollo 8, that's referring to the fast return procedures.

01 13 27 58 CMP Okay. Thank you.

01 13 31 55 CMP Houston, Apollo 8.

01 13 31 57 CC Go ahead.

01 13 32 00 CMP Are you following my procedure?

01 13 32 02 CC That's affirmative.

01 13 32 06 CMP Okay. This happened yesterday, too. I'm trying to load the DELTA-V you gave us in the maneuver TLI plus 44 in P37, but I keep getting an operator error everytime I try to load zeros for the termination of the middle and corner. Do you know what I'm doing wrong in my procedure?

01 13 32 31 CC Okay. Stand by.

01 13 35 24 CC Apollo 8, Houston.

01 13 35 28 CMP Okay, go ahead. I can take it.

01 13 35 31 CC Okay, looks like the decimal point in R2 under NOUN 60 is on the extreme right-hand side so the proper load will be 06070. Over.

01 13 35 46 CMP Ah, so. Okay, fine. Thank you. I'll update my checklist. Don't know what I want to update it for, I can't read.

01 13 54 24 CC Apollo 8, Houston. We are about to hand over to another site so you may lose lock momentarily.

01 13 54 36 CMP Roger, Houston. Did you receive the results of the P37?

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01 13 54 40

CC

Sure did. Looks pretty good here.

01 13 54 45

CMP

I concur.

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01 13 57 14 CC Apollo 8, Houston through Honeysuckle. The switch is completed.

01 13 57 19 CT You are loud and clear.

01 13 57 21 CC Roger.

01 13 58 23 CMP Houston, Apollo 8.

01 13 58 25 CC Go ahead.

01 13 58 28 CMP Another comment on the optics. We're in PTC right now. We are passing the - we have the roll of about 182; we're about in 226 pitch and 18 in yaw. I can rotate the shaft all the way around at this particular attitude, and I get this band of light at about 10 degrees of this side of the up-line. It - it varies in intensity with the shaft position. However, it is there at this particular attitude.

01 13 59 06 CC Okay. Thank you.

01 13 59 32 CC Jim, we have just been looking at your marks with respect to accuracy and they figure they are within a couple of thousandths of a degree of the theoretical optimum. The integrater seems to bear that out.

01 13 59 53 *Love* CMP Well, I hope that they are enough to get us home if we have to use them.

01 13 59 57 CC Well, I am getting a lot of confidence in your ability to run that mystery show now.

01 14 00 06 *Amber* CMP Hey, Jim, we have to spend four more days up here with him, will you take it easy. He is

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already talking about going back to MIT as a
professor.

01 14 00 08 CC (Laughter)
01 14 41 37 CDR Hello, Houston. How do you read Apollo 8?
01 14 41 40 CC Oh, loud and clear.
01 14 41 45 CC You sure do sound wide awake.
01 14 42 34 CDR Hello, Houston, Apollo 8. How do you read?
01 14 42 36 CC Apollo 8, Houston. Read you loud and clear.
How me? *Communications Technician*
01 14 44 05 CC Honeysuckle network, GOSS CONFERENCE. How do
you read?
01 14 44 07 CDR Houston, this is Apollo 8. How do you read?
01 14 44 11 CC Loud and clear, Apollo 8.
01 14 44 53 CT Go ahead Honeysuckle. How do you read?
01 14 45 03 CT Well, I would like to say hello to all of you
in Australia. How is everything down there?
01 14 45 18 CT Pretty good so far. Thank you.
01 14 45 27 CT Honeysuckle, Houston network, on GOSS CONFERENCE.
How do you read?
01 14 45 33 CT Houston network, this is Honeysuckle reading at
5, 5.
01 14 45 38 CT Roger.
01 14 45 45 CC Apollo 8, Houston.
01 14 45 53 CC Apollo 8, Houston.
01 14 46 18 CC Apollo 8, Houston.
01 14 47 16 CC Apollo 8, Houston.

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01 14 47 21 CDR Roger, just checking with you. Hey, if you all start having ground switching problems, how about having some place that has COMM come in and tell us about it. Will you please?

01 14 47 35 CC Roger. Apollo 8. That's what we have been trying to do. Some of our problem seems to be getting from here to that site.

01 14 47 42 CDR Houston. Apollo 8. How do you read?

01 14 47 45 CC Apollo 8, Houston. Loud and clear. How me?

01 14 47 59 CDR Houston, Apollo 8.

01 14 48 03 CC Apollo 8, Houston. Read you loud and clear.

01 14 48 36 CC Apollo 8, Houston.

01 14 48 40 CDR Roger. Go ahead Houston. Apollo 8.

01 14 48 43 CC Roger. We read you loud and clear and copy your remarks about having our remote site talk to you. Some of our problem has been in going from MCC to the remote site. We will attempt to do that anytime we can.

01 14 49 01 CDR That's right. Just tell them you are having problems.

01 14 49 04 CC Roger.

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01 15 38 02 CDR Houston, Apollo 8. How do you read?
 01 15 38 06 CC Apollo 8, Houston. Reading you weak but clear.
 01 15 38 11 CDR Okay. Thank you, Jerry.
 01 16 02 15 CC Apollo 8, Houston. Over.
 01 16 02 20 CDR Go ahead, Houston, Apollo 8. Over.
 01 16 02 22 CC Roger, Frank. I've got a little news and some
 ball scores if you want them.
 01 16 02 28 CDR Go ahead.
 01 16 02 29 CC Okay. The big news right now, on the wires, is
 that all 82 crewmen of the Pueblo have been re-
 turned. They walked across the Bridge of Freedom
 Monday night.

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01 16 02 42 CDR Wonderful!
 01 16 02 48 CC Said it took about 30 minutes for all 82 men
 to come across the Bridge of No Return and that's
 the one separating North and South Korea. They
 started across about 11:30 a.m. and were over
 by about noon, and they brought the body of the
 crewman that was killed, also.
 01 16 03 17 CC Okay, Frank. On ball scores, did you get the
 word on the Baltimore and Minnesota game today?
 01 16 03 24 CDR Not the final one.
 01 16 03 26 CC Okay. Final score was the Colts 24, Vikings 14.
 That gives them the western conference, so it
 looks like for the NFL title it's gonna be the
 Browns versus the Colts on the 29th.

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01 16 02 41 CDR 29th?

01 16 02 44 CC Roger. Slow return - you'll get it.

01 16 03 49 CDR Say again.

01 16 03 53 CC Roger. Come back slow return and we'll get it.

01 16 03 58 CDR I'd rather come back fast and watch it on television.

01 16 04 02 CC Atta boy! Let's see, for the AFL: the big game today was Oakland and Kansas City and Oakland dumped them 41 to 6, so it's looks the AFL title game will be the Raiders and Jets.

01 16 04 17 CDR Righto! That's hard to believe, that score.

01 16 04 20 CC Amen! Okay. In yesterday's game, I don't know if you got the score on that. The Cleveland Browns and the Cowboys. The Browns dumped the Cowboys 31 to 20.

01 16 04 34 CDR Yes, we heard that.

01 16 04 36 CC Yes, they're crying in Dallas. Basketball scores: Houston didn't do so good this weekend. Illinois beat Houston 97 to 84. And North Carolina took the Owls. The score was 85 to 77. We had a couple of words in the paper, Frank on - the Oilers. The Oilers voted George Webster their most valuable player and - although Houston didn't make anybody on the All Offensive Team this year, they put Walt Suggs and Hoyle Granger on the second team.